

Abstract of the Disclosure

Giant magnetostrictive material, with an alloy including a rare earth element and a transition metal element, is obtained by dissolving nitrogen interstitially in the alloy. Nitrogen is introduced in the alloy in the range from 0.01 to 2.5 % by mass. Nitrogen introducing treatment is carried out at a temperature of 600°C or less. A content of nitrogen compound present in magnetostrictive alloy, by a ratio of a content of nitrogen in the nitrogen compound to a total nitrogen content in the alloy, is reduced to be 0.05 or less by mass ratio. Almost all of the added nitrogen is interstitially dissolved between crystal lattice. In giant magnetostrictive material using melt quench flakes, the flakes are stacked in a thickness direction that is a direction of growth of columnar grain essentially constituting the flake material to integrate in this state.

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